

ACG / EWA Webinar

Mitigating the Impact of the US/China Tariffs

Operational, Commercial & Supply Chain Counteractive Measures

December 6, 2018

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a s s o c i a t e s

Commercial, Operational & Risk Management Specialists for China/Asia

- A leading provider of commercial, operational & risk management solutions and detailed implementation to western companies competing in the ever-changing China & Asia markets.
- Founded in 2005 with offices in the USA and in China
- All EWA executives have lived in China & Asia and held senior management positions with P&L responsibilities for western MNCs with operations in China & Asia, including Briggs & Stratton (NYSE: BGG), Bechtel Group and Littelfuse, Inc. (NASDAQ: LFUS)

- Extensive experience in numerous key industries:

Automotive

Metal Fabrication

Chemicals

Semiconductors

Specialty Metals

Energy & Natural Gas

General Manufacturing

Consumer Goods

Packaging

Food & Beverage

Laboratory Equipment

Industrial Textile & Apparel

Durable Goods

Filtration & Separation Equipment

Electronics

Medical Devices

Food Technology

Costings & Building Materials

Corporate Strategy
Development

M&A Due Diligence

Risk Management

Performance
Improvement

Senior Management
Recruitment

Working
Environment
Efficiency

Location Services

Supply Chain
Management

Business
Assessment

Research Services



ALEX BRYANT

Founder & President

- Director of International Business Development for Barnhardt Manufacturing Company
- Attorney, Ogletree Deakins Nash Smoak & Stewart, P.C.



MARK PLUM

Director

- President of Briggs & Stratton Asia (NYSE: BGG)
- Vice President of Sales & Marketing, American Standard Thailand & American Standard China



WARREN WISNEWSKI

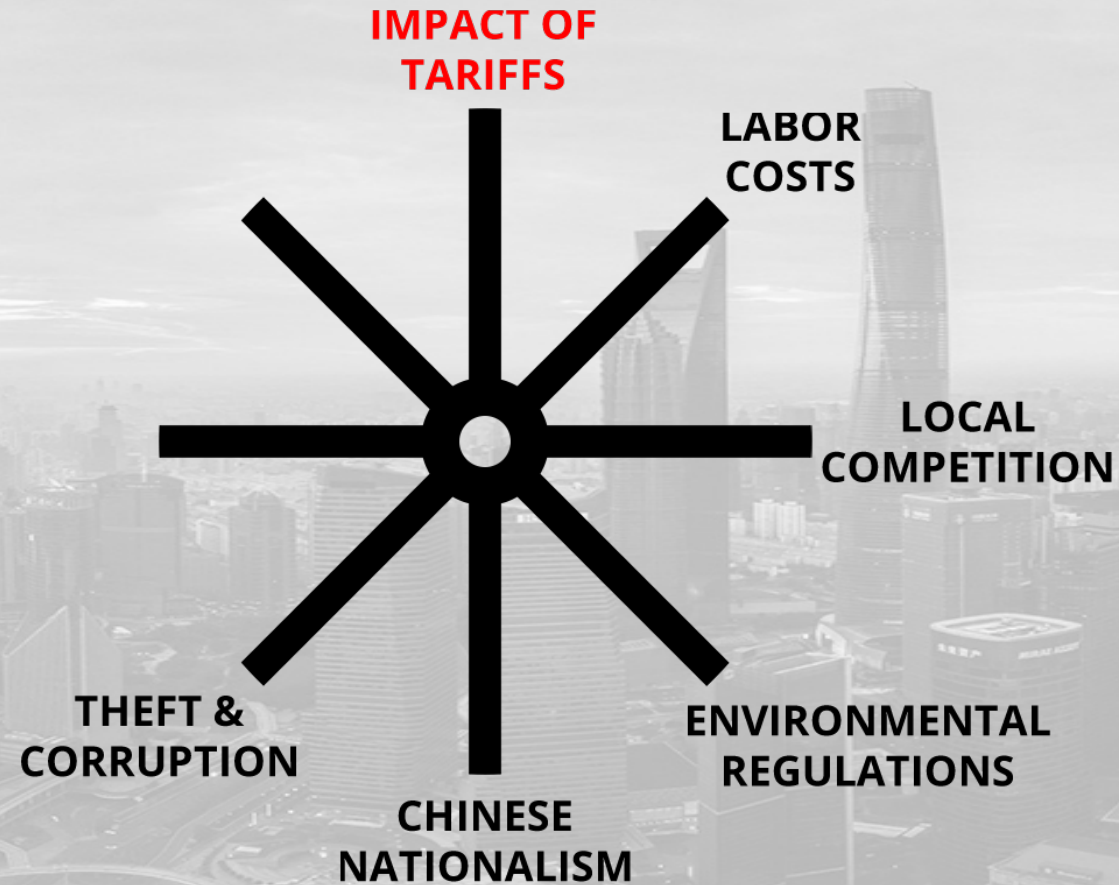
Director

- Vice President and General Manager, Asia Pacific for Eastman Kodak Company (NYSE: KODK)
- Recipient of Shanghai City's Silver and Golden Magnolia Awards

- To provide a comprehensive understanding of the US/China tariffs, our webinar will discuss counteractive strategies for products manufactured, sold and procured between the 2 countries



One more challenge for companies operating and investing in China



- Today's webinar is divided into 4 segments:
 - Overview of the impacts of the US/China tariffs upon companies operating & investing in China
 - Presentation of 5 key counteractive strategies, which companies are developing to mitigate the impact of the US/China tariffs
 - Review of the counteractive strategy development process
 - EWA implementation case studies outlining how counteractive strategies are transformed into results



Key Impacts Of The US/China Tariffs

- Of all of the 2018 supply chain trends, the US/China tariffs will present the greatest risk of disruption (2018 Supply Chain Trends, Cerasis)
- 84% of manufacturers expect the US/China tariffs to have a negative impact upon company profitability, due to increased costs for raw materials & components

The US/China Tariffs Threaten Corporate Stability & Make Life Tougher To Operate Competitively

competitiveness and increased supply chain disruptions, is the high potential for a loss of customer base (The Financial Times, 2018)



5 Key Counteractive Strategies That Companies Are Developing To Mitigate The Impact Of The US/China Tariffs

- “At the present time we are seeing companies looking to move their production out of China and to manufacture elsewhere in the region. This started before the trade wars surfaced – with companies seeking lower labor costs – but the focus has increased due to the US tariffs”
(Lisa Robins, Global Head of Transaction Banking at Standard Chartered)
- “Facing the prospect of increased tariffs on Chinese-made goods, has caused companies to accelerate the moving of production to other countries in Asia”
(John Laurens, Global Head of Transaction Services at DBS)
- 70% of US manufacturers are considering relocating some or all of their China production facilities to another Asia-Pacific market, due to the US/China tariffs
(AmCham China Survey, 2018)

- 84% of US manufacturers sourcing raw materials & components from China plan to diversify their current supply chains by recruiting new suppliers from other Asia-Pacific markets, as a direct result of the US/China tariffs (EWA Survey, 2018)
- “Over the recent months, we have experienced a heightened interest in the global expansion of supply chains as a result of the ongoing US/China trade war rhetoric” (Lance Younger, Head of Deloitte’s Sourcing and Procurement)
- “More and more companies are opting for increased global supply chain diversity to offset the current geopolitical risks” (Brian Alster, Global Head of Supply and Compliance at Dun & Bradstreet)

- “Due to the geopolitical issues between China and the US, we are seeing increasingly more companies looking to the emerging ASEAN countries as a viable approach to expanding & diversifying their customer base. Companies are taking feedback from the markets to modify existing products or create new products that appeal to these potential customers”
(Elisabetta Gentile, Senior Economist at the Asian Development Bank)
- “Despite the disruptions of the US/China tariffs, we continue to participate in the traditional dance of the buyer and seller - what has changed is that now more global sellers are looking to dance with Asian buyers outside of China”
(Reuters, 2018)

- “Despite the current trade war between the US & China, many companies are reluctant to leave China for a number of reasons. But in order to remain competitive, these companies are under extreme pressure to improve production flows and reduce operating costs. We expect this trend to only increase in the near future”
(Carmen Chan, Senior Analyst at Deutsche Bank Asia)
- 64% of manufacturers have implemented internal cost cutting measures to offset the increased costs of raw materials & components
(EWA Survey, 2018)

- “As a direct result of the US/China trade war, we have seen a significant rise in the role of technology and an increased usage of robotics among manufacturers looking to streamline production, decrease production costs and move up the value chain”
(Elisabetta Gentile, Senior Economist at the Asian Development Bank)
- “Today, technology is playing a significantly larger role in helping businesses to expand operations overseas. Data is being used to gain insights on customer acquisition, inventory management and logistics, as well as moving production to another location”
(Guruprasad Gaonkar, Software as a Service Leader at Oracle Asia-Pacific)



The Counteractive Strategy Development Process

- With so many different counteractive strategic options, determining which strategy is best for a company requires a structured development process that begins with a detailed company-specific assessment / analysis:

Manufacturing Footprint Optimization Analysis
Supply Chain Optimization Analysis
Performance Improvement Assessment
Commercial, Operational & Risk Assessment
Make vs. Buy Evaluation



Global Plant Relocation & Downsizing
Global Supply Chain Expansion
Global Customer Base Expansion
Corporate Cost Cutting
Partner Acquisition



**EWA Implementation Case Studies:
Transforming Strategies Into Results**



EWA Case Study: Make vs. Buy Evaluation

- A global consumer electronics company was developing a totally new product line. Products were:
 - Built around some fundamentally new digital printing technology
 - Deployed in a core “engine” for the finished product
 - In the final development and commercialization stages
- Company operated its own manufacturing operation in the Yangzi River Delta Region (YRD)
 - Plant produced similar, but not identical, technology-based products
 - Operation had an outstanding track record supporting prior new product intros
- Due to the nature of the products, it was determined that:
 - The technology and economics required it to be made somewhere in China
- New company management team held a strong bias toward outsourcing vs. internal manufacturing
 - Independent help was sought for an objective Make vs. Buy analysis

Step 1: Define specific project objectives and requirements

- Extensive interviews with senior management and project technical team
 - Overall company background and objectives for the project
 - Project economics and product launch plans
 - Technical requirements, anticipated challenges for the core engine
 - Develop a strong working relationship and communications
- Basic technical requirements included:
 - Controlled environment for final assembly, test and burn-in
 - Class 100 clean room
 - Microelectronics assembly and test capability
 - Demonstrated capability for rapid productivity improvement
 - Production yields at time of engagement less than 30%
- Comparison of total life cycle costs, internal vs. external manufacturing

- **Step 2: Deploy formal process and develop core elements for analysis**
 - Detailed, standardized template developed
 - Completed by each potential supplier candidate
 - Internal and external
 - Information required included:
 - Company financial history, evidence of strength/stability
 - Major customers/clients
 - Quality certifications, evidence of currency/compliance
 - Full listing of technical resources on staff by discipline
 - Facility and production equipment details
 - Current capacity utilization, evidence of ability to expand quickly and reliably
 - Common set of detailed technical specifications developed
 - Individual components
 - Finished engine assembly and test

- **Step 3: ID potential suppliers and obtain analytical data**
 - Supplier search focused on YRD and Pearl River Delta (PRD) Regions
 - Conduct preliminary interviews
 - Quickly develop “short list” of finalists
 - Each finalist required to provide extensive, detailed project proposals with:
 - Projected unit costs,
 - Quality and yield improvement plans
 - Any added “pass thru” costs beyond UMC
 - Productivity commitments
 - Most finalists had full in-house microelectronics capability
 - Internal manufacturing option:
 - Utilize nearby sub-contractor for die placement/wire bonding
 - Maintain direct control over final assembly and test
 - Unique info included:
 - Capital costs
 - Additional inventory carrying costs and projected
 - Learning curve costs

- **Step 4: Prepare final analysis and recommendation**
 - Key elements of the analysis included:
 - Initial unit manufacturing cost and projected productivity improvements
 - Upfront costs (learning curve, capital costs)
 - Production scheduling flexibility/ability to quickly adjust supply as needed
 - Projected cash flow requirements
 - Level of inventories to be carried by the company
 - Experience and track record with commercializing similar technology products
 - Demonstrated microelectronics experience and capability
 - Willingness to “pass through” cost benefits of yield and productivity improvements immediately
 - Level of transparency; willingness to work share all operational information with company
 - Final recommendation prepared and shared with company senior management

- **Final recommendation to company management:**
 - Maintain direct manufacturing control over core engine for at least 2-3 years
 - Internal manufacturing costs projected to be 10% less than most qualified external bidder
 - Any lack of direct capability for microelectronics mitigated via close proximity to subcontractors
 - Yield improvements could be driven more quickly
 - All financial benefits flowing directly to the company
 - Higher degree of focus, priority and control
- Company awarded project to EMS company located in the PRD Region
 - Decision driven by:
 - EMS company's prior capabilities in microelectronics
 - Existing Class 100 production facilities
 - Senior management's preference for external manufacturing
- Key takeaway:
 - For make versus buy analyses/decisions, special considerations required for newly developed technologies



EWA Case Study: Global Plant Relocation

- A global manufacturer of industrial products for the laundry market with operations in the US, China & Europe
- The Chinese manufacturing facility was located in the Guangdong Province and in operation for 5 years
- Business had been growing 12-15% for the last 3 to 5 years
- The company was operating at maximum production capacity
- Given their growth in China/Asia Pacific, a significant increase in production capacity was mandatory
- The manufacturer required a new facility approximately 10 times larger than their current facility
 - Factory was to be approximately 200,000 square feet
 - Located on a 400,000 to 500,000 square foot site
 - 200 employees (150 production staff & 50 management/engineering)
- Although satisfied with the Guangdong Province, the client accepted the EWA proposal to also investigate the benefits of an expansion into the ASEAN market

Step 1: Identifying the expansion criteria

- Company analysis
 - 15% of their entire Asian consumption was consumed in China -> ease of exportation
 - Sales projections indicated strong growth -> future production capacity expansion -> labor & material supply
 - Price is a major influencer within the competitive environment -> government incentives & inflation rates
 - Large products with labor intensive production process -> labor costs & transport costs
- Expansion criteria: labor supply/costs, government incentives, inflation rates, availability of raw materials, transport & export logistics

Step 2: An in-depth comparative analysis of 6 selected countries

- Philippines, Malaysia, Indonesia, Vietnam, Thailand & China
- Weighted areas of focus:
 - Government incentives, labor supply/costs, inflation rates, availability of raw materials, land costs, utility costs, ease of doing business, corruption index, domestic market size, transport & export logistics
- Expansion recommendation: Thailand

Step 3: On the ground interaction

- Met with two of the largest industrial zone developers, visited 5 potential sites & selected 2 sites for soil testing
- Negotiated conditions for property purchase & property management (waste removal, perimeter security, etc.)
- Negotiated investment incentives with Secretary General of Royal Thailand Board of Investment
- Interviewed, evaluated & qualified:
 - 3 architect and engineering firms
 - 3 general contractors
 - 4 project management firms
 - 3 executive recruiters and manpower staffing firms capable of staffing the 200 person facility
- Met with local legal and accounting firms to identify the necessary criteria for establishing a business entity
- Presented a 360° recommendation to the US Board of Directors which was approved for implementation

Step 4: Hands-on implementation

- Board of Investment business and tax incentives negotiations finalized in October 2017
- Property was purchased and all pre-construction permits/licenses/registrations were acquired by November 2017
- Plant blueprints, construction budget/timeline & all construction partner contracts were finalized in December 2017
- Mechanical, structural and architectural drawings finalized and approved in April 2018
- Land preparation commenced in May 2018 and facility construction began in July 2018
- Identification, recruitment and hiring of General Manager, Finance Director and HR Director finalized in August 2018
- Identification, recruitment and hiring of Facilities and Operations Managers finalized in October 2018
- Handover of 1st half of assembly area to owners in December 2018
- Limited production scheduled for February 2019 & full production to begin in April 2019

Government Incentives

- 8 year tax holiday from corporate income tax (CIT)
- 50% holiday for an additional 5 years

Cost Reduction*

- \$22.0M tax savings over 10 years
- \$4.3M annual labor savings after 5 years
- \$1.8M annual material savings after 5 years
- \$120/unit average freight savings

Growth Development*

- 42% increase in sales over 5 years
- 53% increase in revenue over 5 years

*Company Forecasts



**EWA Case Study:
Performance Improvement Assessment
& Corporate Cost Cutting**

- Privately-owned US manufacturing company in the cosmetics industry with a WOFE manufacturing plant in China
- Company purchased the China plant in 2006
- China plant employed more than 700 people and its products were sold to export markets
- Company's sales had grown significantly in the last 12 years and the plant layout/workflow was poorly laid out in a haphazard fashion.
- EWA was engaged to streamline and lean the current operation

Step 1: Assessment of the Operations

- Analysis of the Company's business situation, organizational structure, management style, level of process standardization, lean management tools and history, operational "culture", etc.
- Interviews with CFO of US headquarters as Project Sponsor
- Interviews with the General Manager, department managers (HR director, QA director, manufacturing director, assembly shop manager, production planning manager), selected staff (e.g. EHS engineer, project manager for new factory building, project assistant). All staff were Chinese and no Westerners.
- Analysis of employee handbooks, process flow, organization chart, quality assurance processes and documentation, production records, financial reports
- Regular shop floor walks

Step 2: Identify major areas of improvement

- Number of key areas were identified & prioritized by EWA and approved by the General Manager
- The first list prioritized by EWA
 - Management practices and accountability
 - Operational Processes defined
 - Production layout and automation
 - Pollution Controls and Compliance

Step 3: Hands-on implementation

- The project team was established (EWA consultant, chemical process engineer, engineering manager, plant manager and assistant).
- Many process flow and mapping, cost and time analysis, delay and WIP studies were done to arrive at the core issues:
- While some reasonably effective emissions control equipment was in place, it was often turned off to “save money” and may have only been utilized during Government Health & Safety inspections
- Management group that they were accountable for health and welfare and environmental controls in addition to producing finished goods at all costs
- New Operations Director was identified, qualified and hired
- Automatic production line for anodizing was implemented
- Replacement of the acid process with an electrochemical process was put into trial and proved successful, provided that the process parameters were observed and results recorded
- Redesigned workflow “choke points”

- New Operations Director increased plant morale because he placed high importance on compliance and worker safety
- Kept pollution controls on at all times – improved hazardous atmosphere, reduced costs of paid leave were reduced by 15%
- Company passed Government environmental inspections, which avoided a potential pollution fine of 2.4M RMB and possible plant shutdown
- Reduced the load by 17.5% on an already over-taxed water treatment system which previously was overflowing untreated waste, including H_2SO_4 into the watershed, and saved 13.8% on the water treatment chemicals
- Improved production layout, efficiency and throughput by 9.5% over 6 month period



US/China Tariffs Summary

- The US/China tariffs are creating unprecedented challenges for companies operating & investing in China - challenges that threaten corporate stability.
- There are numerous counteractive strategic options to mitigating the impact of the US/China tariffs - each with its own potential benefits & implementation requirements.
- But just as every company is unique, every company requires a company-specific counteractive approach to mitigating the impact of the US/China tariffs - success is dependent upon the right implementation of the right strategy.
- This is the core foundation of the EWA philosophy to successfully mitigating the impact of the US/China tariffs:

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Contact Information

For further information as to how East West Associates can improve your business, please contact:


Alex Bryant
President


Charlotte, NC, USA
abryant@eastwestassoc.com
Direct +1.704.807.9531

Jon B. Anderson
VP & Managing Director – China

Shanghai, PRC
janderson@eastwestassoc.com
World Mobile +1.312.952.8255
China +86 137 6434 7001

 eastwestassoc.com

 [linkedin.com/company/east-west-associates](https://www.linkedin.com/company/east-west-associates)

 twitter.com/abryanteast